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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,749	01/22/2001	Conal O'Neill		1254
7590	03/23/2005		EXAMINER	
John R. Ross, III Ross Patent Law Office P.O. Box 2138 Del Mar, CA 92014			CHEN, TIANJIE	
			ART UNIT	PAPER NUMBER
			2652	

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/766,749	O'NEILL, CONAL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tianjie Chen	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 February 2005.

2a) This action is **FINAL**.                            2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2,3,5-7,15,20-23,25-27,29,31 and 32 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) 2,3,5-7,23,26,29,31 is/are allowed.

6) Claim(s) 15,20-22,25,27 and 32 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

***Non-Final Rejection (RCE-2)***

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/23/2005 has been entered. Claims 2, 3, 5-7, 15, 20-23, 25-27, 29, 31, and 32 are pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 15, 20, 21, 22, 25, 27, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Soeno et al (US 6,246,552).

With regard to claims 15, 27, and 32; Soeno et al shows a disc drive actuation system including: A) a flexure 31 (Fig. 18B; column 27, line 41), B) a solid (not fluid) microactuator connected to the flexure, and the solid microactuator including: 1) an inner inactive region 44, 2) a first outer inactive region 431, 3) a second outer inactive region 432 4) a first piezoelectric section 411b sandwiched between the first outer

inactive region and the inner inactive region, 5) a second piezoelectric section 412a sandwiched between the second outer inactive region and the inner inactive region, C) a slider 2 (Column 13, line 4) connected to the solid microactuator, wherein the slider is independently supported by the solid microactuator, and D) a read/write head connected to the slider, wherein the inner inactive region 44 is sandwiched between the first piezoelectric section 411b and second piezoelectric section 412a and firmly attached to the slider (means) and both of the outer inactive regions being firmly attached to the flexure (Column 6, lines 35-37), and both of the outer inactive regions being firmly attached to the flexure, wherein the microactuator is configured and arranged to displace the read/write head with respect to tracks of a rotatable disc in response to control signals applied to the microactuator.

With regard to claims 27 and 32, Soeno et al further shows an inherent electrical circuit for energizing the first and the second piezoelectric sections to cause them to expand and contract in order to linearly move the read/write head so that the read/write head is precisely positioned over the selected track (Column 22, lines 59-61), the circuit and the piezoelectric sections being configured such that the first piezoelectric section expands when the second piezoelectric section contracts and the first piezoelectric section contracts when the second piezoelectric section expands (Column 22, lines 59-66).

With regard to claim 20; Soeno et al further shows a flex circuit 33 (Fig. 21, column 28, line 27) for providing electrical connections to the read/write head and the microactuator.

With regard to claim 21; Soeno et al further shows that the disc drive actuation system is a magnetic disc drive actuation system (Column 6, lines 24-26).

With regard to claim 22 Soeno et al further shows that the disc drive actuation system is an optical disc drive actuation system (Column 6, lines 24-26).

With regard to claim 25; Soeno et al further shows the first piezoelectric section includes two first piezoelectric sides, wherein both of the first piezoelectric sides are opposite to each other (Fig. 8), and wherein the second piezoelectric section includes two second piezoelectric sides (Fig. 8), wherein both of the second piezoelectric sides are opposite to each other, wherein one of the two first piezoelectric sides is rigidly attached to the first outer inactive region and wherein the other of the two first piezoelectric sides is rigidly attached to the inner inactive region, and wherein one of the two second piezoelectric sides is rigidly attached to the second outer inactive region and wherein the other of the two second piezoelectric sides is rigidly attached to the inner inactive region.

#### ***Allowable Subject Matter***

1. Claims 2, 3, 5-7, 23, 26, 29, and 31 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

- With regard to claim 26, as the closest reference, Soeno et al (US 6,246,552) shows a disc drive actuation system for precisely positioning a read/write head over a selected track of a rotatable disc the system including: a flexure; a slider; and a microactuator, which includes: an inner inactive region, a first outer inactive region, a second outer inactive region, a first piezoelectric section, and a second piezoelectric section; wherein the first and second outer inactive regions are connected to the flexure and the inner inactive region is connected to the slider; **but fails to show** that the first and second outer inactive regions

are connected to the slider and the inner inactive region is connected to the flexure.

- With regard to claim 29, as the closest reference, Soeno et al (US 6,246,552) shows a disc drive actuation system for precisely positioning a read/write head over a selected track of a rotatable disc the system including: a flexure; a slider; and a microactuator, which includes: an inner inactive region, a first outer inactive region, a second outer inactive region, a first piezoelectric section, and a second piezoelectric section; wherein the first and second outer inactive regions are connected to the flexure and the inner inactive region is connected to the slider; **but fails to show** that the microactuator is not interrupted by break or opening.
- Applicant assumes that in his device, the microactuator has to only overcome the inertial mass of the slider and a portion of its own mass, very precise control at high frequency is possible (Specification, p. 3, lines 15-17).

#### ***Response to Arguments***

2. Applicant's arguments filed 02/23/2005 have been fully considered but they are not persuasive.

- With regard to claim 15, Soeno et al's microactuator is made of solid material; therefore, it is a "solid microactuator."
- With regard to claim 27, Applicant argues that claim 27 is a "mean-plus-function" claim. It is not acceptable. Applicant recites "a microactuator mean" in claim 27, which does not contain a "function" to limit the "means." Furthermore, in claim 27 the "microactuator means" is

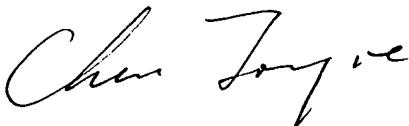
Art Unit: 2652

incorporated with detailed structure as recited. Therefore, claim 27 does not invoke 35 U.S.C. 112, sixth paragraph.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on Flexible.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TIANJIE CHEN  
PRIMARY EXAMINER